



DIGITAL SHIP'S MARITIME CYBER RESILIENCE FORUM

Tuesday April 25th, 2017

Novotel Hotel, Athens Greece



SESSION 1

Facing the Cyber Threat : An Overview of Maritime Cyber Challenges and Focus on Building Resilience



REVIEWING THE IMPACT OF CYBER THREAT ON THE SHIPPING SECTOR





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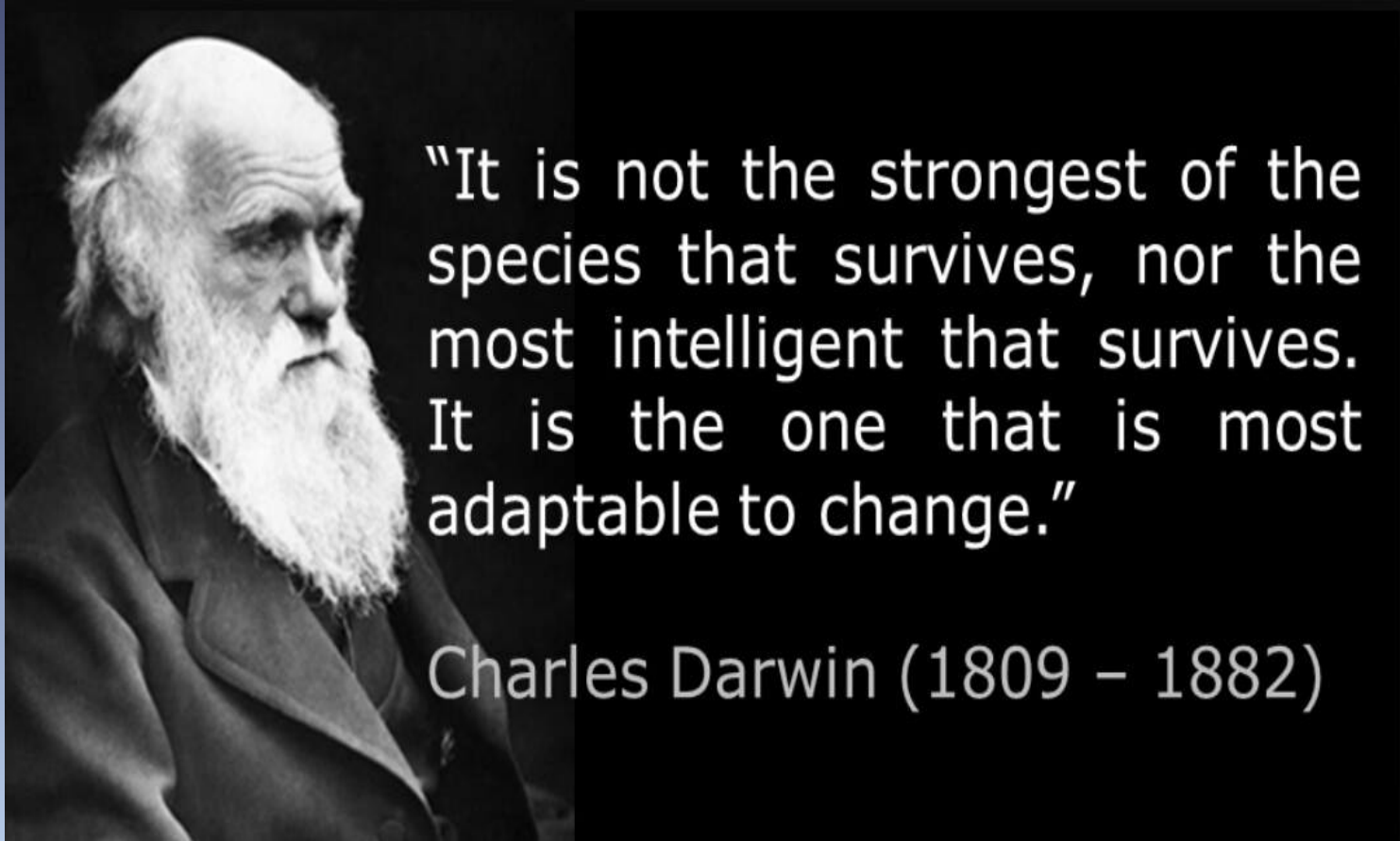
...ΣΩΚΡΑΤΗΣ



THE ONLY THING I KNOW IS THAT I KNOW
NOTHING ... SOCRATES



IN DARWIN'S WORDS...





FINANCIAL FRAUD COSTING THE UK ALONE GBP 2,000,000 A DAY





MOST HACKING IS PLAIN CRIMINAL OR “SHOW-OFF” VANDALISM



* Hackers took control of plane using in flight entertainment systems, putting passengers' information and safety at risk (*The Telegraph* 0.12.16)

* Hackers are a serious threat to aircraft safety (*Daily Mail* 11.12.14)

* Hackers Use Twitter Bomb Scare to Divert Sony Exec's American Airlines flight (*News* 26.08.14)

* Battle of the Airlines : Computer Hacking of Flight Details : BA ran a complex operation to steal customers from Virgin Atlantic (*Independent* 12.01.93)



MALAYSIA AIRLINES FIRST TO USE NEW SATELLITE-BASED AIRPLANE TRACKING SYSTEM

Three years ago, Malaysia Airlines flight MH370 disappeared from radar somewhere above the Indian Ocean with 239 people on board. Today, the airline announced it is the first to sign up to a new service that will track its airplanes anywhere in the world using orbiting satellites. The company's planes will be tracked minute-by-minute using the new system, which boasts complete worldwide coverage, even over "ocean, polar, and remote regions." (*The Verge – Aviation 19.04.17*)





OUR SHIPPING REALITY....

The Marine industry is going through a revolution in terms of technology

The marine insurance sector has already reacted to **cyber risks**. The English market for example has introduced the Institute **Cyber Attack Exclusion clause CL 380** which is today generally incorporated into policies.

The German DTV-ADS contain a **cyber risk exclusion clause in clause 36**. Accordingly, the market solution is to exclude this risk in H&M policies.

As with unmanned vessels, **cyber risks** will become even more important and further risks like, for example, the loss of an essential data link to the land based remote controller arise.

Stand alone cyber insurance providers generated \$2.75 BN in premium revenues last year in the US Alone – a number set to triple to \$7.5 BN by 2020.

Marine Policies incorporating cyber risk \$3-4 BN/year increasing at rate of 60% per annum.



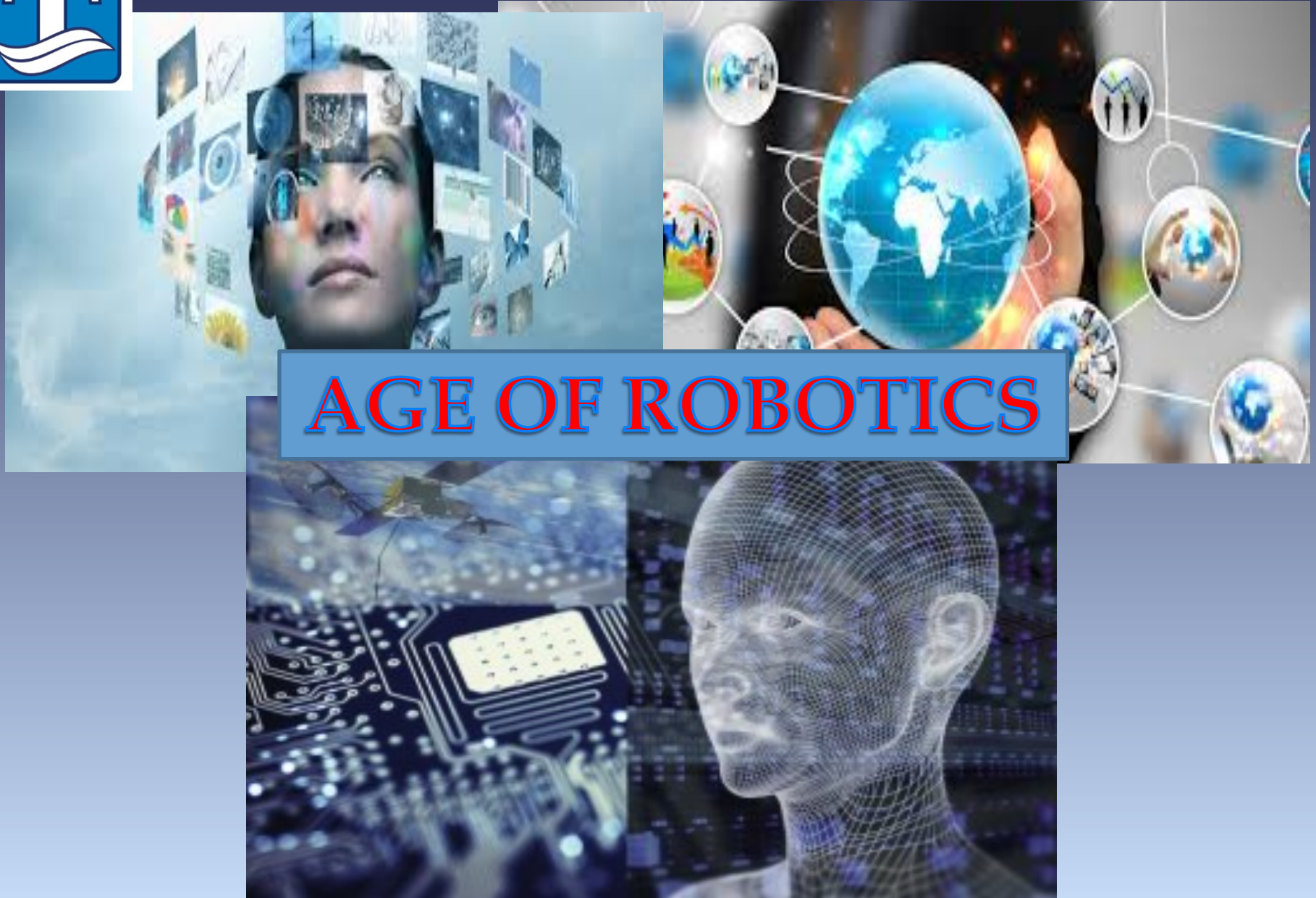
A FEW SIMPLE ACTIONS CAN ENSURE THAT WE ARE NOT EXPOSED TO AN UNACCEPTABLE LEVEL OF RISK :

- 1 Review your fleet, to establish which systems have the capability to be accessed remotely, even if its only for data acquisition.
- 2 Where remote access is identified, review your companies procedures for controlling this access.
- 3 Based on the results obtained from items 1 and 2, recommendations can be made to ensure remote access is controlled.
- 4 Review your companies procedures for managing software changes carried out on your ships systems. This will be assessed against a well established International Standard ISO 10007:2003 Quality management systems -- Guidelines for configuration management.
- 5 Based on the results obtained from item 4, recommendations can be made to ensure your companies software change processes align with the Intl Standard & are tailored to your companies tolerance for risk.
- 6 Part of the analysis will be to review the training needs of your superintendents & Chief Engineers if they are unfamiliar with the processes required to manage software upgrades or how to control remote access.

To take this forward, it is recommended that a sample vessel is identified where an initial review can be carried out.

The solution to managing software change and controlling remote access is not complicated but does require a certain amount of tailoring of the Standard and familiarisation of the procedures by your marine staff.

The above provided by Bernard Twomey, Founder and Director of Bernard Twomey Consulting, based in Glamorgan, Wales, with over 23 years of experience in marine electro-technical systems.



AGE OF ROBOTICS



CONCLUSIONS...



BY

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